

R E P O R T

OF THE

EDINBURGH EAR DISPENSARY;

WITH

NOTES OF ONE HUNDRED CASES OF DISEASES
OF THE EAR,

TREATED IN SUCCESSION DURING THE FIRST MONTHS OF 1861.

BY

THOMAS KEITH, M.D., F.R.C.S.E.

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REPORT.

THIS dispensary has now been in operation since 1857. It was originally an experiment, and was intended to be continued or not according to circumstances. For some time, indeed, the experiment was a most unsatisfactory one, so far at least as treatment was concerned; for the cases which first presented themselves were of such long standing, and the diseases in the ear so confirmed, that little or nothing could reasonably be recommended to almost any of the applicants. In course of time, however, as the dispensary became better known, and as the incurable cases were discouraged from continuing their attendance,—and the importunity of some was wonderful,—early application for advice became the rule, and treatment in a corresponding degree became satisfactory and successful. And as an experience of five years has now shown that the institution has been acceptable to those who have attended it, and as it has been the means of saving many ears, the present intention is to continue it, in the hope that the dispensary may some day be of use to our Medical School, and that those who choose may have an opportunity of studying practically a class of diseases—dry and uninteresting, perhaps,—of which, as a general rule, students see little or nothing, and which are most commonly either got rid of, or else simply ignored altogether.

During the last four years 1220 diseased ears have been carefully examined. Of these cases notes have been taken as to the degree of deafness the appearances presented at the first and subsequent visits, and as far as possible regarding their progress. When the attendance ceased or became irregular, the patients—at least the more interesting cases—were visited, when it was practicable, at their own homes. Latterly, many of the cases came from the country, and these were generally of necessity lost sight of. Cases of simple cerumenous accumulations—causing no small degree of trouble at the dispensary,—are not included amongst these; for as more or less relief was generally afforded on cleaning out the canal, the patients were satisfied for the time being, and were seldom seen again.

Of these 1220 it would be easy to give a selected number of successful cases, but it has hitherto been thought better to refrain from publishing any of the cases that were treated during the early years of the dispensary's operations; for, doubtless, at first errors in diagnosis and treatment were not uncommon. It is now proposed to give a brief account of all the cases that applied in succession during last year, whether thought fit for treatment or not. They amount in all to about 250, and of these the present paper contains an abstract of the first hundred.

No classification of the various diseases has been attempted, but the cases are given in the order in which they presented themselves at the dispensary; the state of the ear at the first examination being given, and then, as far as ascertained, the result of treatment at the end of the attendance. When the case was considered as not a fit one for treatment, or when the patient did not return a second time, the appearances on examination are only given. At best they are all brief and imperfect; but—perfect or imperfect, successful as well as unsuccessful—they are given just as they are, with the purpose of showing that, having once established a careful diagnosis, a good deal may be done by treating the diseases of the ear with the simple remedies which we are all in the daily habit of employing in the treatment of diseases of other organs; for the ear requires no particular special treatment, and there is no mystery about its diseases. But till the common tubular speculum comes into more general use, a correct diagnosis in ear cases will be simply impossible; and till it be recognised as an established principle—as was long ago first demonstrated by Mr Wilde,—that nineteen out of every twenty cases of deafness have their origin in inflammatory action in some part or other of the ear, and till patients are encouraged to seek relief in, and practitioners to attend to, slight and incipient diseases of the organ, the practice of aural surgery must necessarily remain obscure and unsatisfactory, and the treatment empirical and unsuccessful.

It may be stated that nearly all the examinations were conducted in bright sunshine, the dispensary hour being noon. When sunlight was not to be had, a short-focussed condenser was made use of, and artificial light was never found necessary. The normal hearing distance with the watch, used in testing the degree of deafness, was between six and seven feet.

CASE 1. Loss of Hearing resulting from an attack of Acute Inflammation of the Tympanum and Membrana Tympani.—Thomas Campbell, æt. 58; applied 1st January 1861.—About seven weeks ago, when perspiring profusely, was exposed to a current of cold air. Towards evening he began to suffer from pain in the right ear, which gradually extended over that side of the head, and was followed by dulness of hearing, confusion, and a continual hissing noise as if he were standing beside a steam-engine letting off steam. These symptoms continued with varying severity for a fortnight, when the pain was relieved by a blister behind the ear, and gave way to a dull throbbing or pulsation, which, with the hissing sound, still remains. Various stimulating applications had been made use of, and syringing the ear had increased his suffering.

The meatus is dry; its inner third is thickened, and is narrower than the corresponding portion in the left ear. The membrana tympani has a shrunken appearance; it is very opaque, much thickened, and fallen in towards the promontory. The thickening of the upper part of the membrane is so great, that the handle of the malleus is scarcely distinguishable; but along its course several large vessels appear, from the irritation caused by the introduction of the speculum. He cannot inflate the middle ear, and the watch is heard only on pressing it against the auricle; but its sound is not perceptible when it is applied to the temple.

That this case was originally one of acute inflammation of the membrana

tympani, and that the inflammatory action had extended unchecked over the tympanic cavity and its contents, and had probably also affected the vestibule and labyrinth, there can be little doubt. As a consequence of this, lymph had been deposited in large quantity between the various layers of the membrana tympani, and upon the surface of the middle ear, producing a thickening of the membrane, and probably binding it by bands of adhesion towards the promontory, interfering thus with its proper vibration, hindering the free motion of the chain of bones, and probably also giving rise to thickening of the membrane of the fenestra rotunda.

As the results of disease were so visible and manifest, no reasonable expectation could be held out of recovery of the hearing. In the hope, however, of removing the congestion which still lingered about the deeper parts of the ear, and of relieving the tinnitus, from which the man suffered exceedingly, he was directed to blister freely over the mastoid process. This he continued to do two or three times a-week, and at the end of three months he reported himself as being entirely free from the distressing sounds. The hissing noise had disappeared, and had given place to a slight tidal murmur, which was only occasional and gave little inconvenience. Beyond his being feebly sensible of the ticking of the watch when pressed against the temple, there had been no improvement in the hearing.

2. *Discharge from left Ear—Aperture in Membrana Tympani.*—John Peters, æt. 17; Jan. 1.—Since an attack of scarlet fever eight years ago, has had discharge from the left ear, accompanied by deafness. At present the hearing distance is one inch.

On examination the meatus is found to contain a large quantity of zinc ointment, which the patient had been for some time in the habit of using to check the discharge. The inferior margin of the membrana tympani, to the extent of about two lines, is separated from its bony attachment, but there appears to be little or no loss of the substance of the membrane itself. Filling the aperture, and growing from the bony margin and from the hollow at the inner extremity of the meatus, are numerous large granulations. These were touched three or four times, at intervals of a week, with the solid nitrate of silver. At the end of a month they had disappeared, and the discharge had also ceased. The membrana tympani seemed to have regained its attachment to the bone, for no aperture could be detected, and the patient could not blow air through the ear as formerly. The hearing had much improved, the watch being easily heard at the distance of five or six feet from the ear. Ten months afterwards, his hearing continued quite good.

3. *Small Perforation in Membrana Tympani after Scarlet Fever.*—John Fyfe, æt. 24; Jan. 1.—Has had discharge from the right ear for twelve years after scarlet fever. For long the discharge was profuse; but for several years past, since he began the daily use of the syringe, the quantity has diminished and the hearing has improved. At present the hearing distance is ten inches, and the discharge is slight.

There is a small perforation about the size of a No. 3 shot, near the lower and anterior edge of the membrana tympani. The rest of the membrane is perfectly healthy and translucent. On filling up the aperture in the drum with a small pellet of cotton wool, the hearing distance is at once increased from ten inches to two feet and a half. It is obvious, however, that from the smallness of the aperture, and the difficulty of retaining the wool in the proper position, the patient will not be able to derive any benefit from its employment.

This man was seen about eight months after this. The discharge had ceased, but the aperture remained as before.

4. *Inflammation of Tympanum and Membrana Tympani in both Ears.*—David Ford, æt. 38, a thin, delicate-looking man; applied Jan. 8.—He has gradually lost his hearing since a severe cold he got after a wetting about five weeks ago. Has only suffered from occasional attacks or rather shoots of pain; the tinnitus has all along been very distressing, especially at night when he lies down.

He is now very deaf. On the right side the hearing distance is half an inch; on the left the watch is heard only when applied to the auricle. It is heard over both temples.

The appearances on inspection are the following:—In both ears the meatus is dry, the usual secretion being absent; the inner portion of both tubes is much more vascular than natural. The membranæ tympani are of a dark brownish-red colour, numerous enlarged vessels are seen running across, especially along the manubrium of the malleus. The injection of the right membrana tympani is more uniform than that of the left, which is somewhat mottled, as if lymph was deposited in its substance. The usual triangular bright spot is absent, and in its stead there are two very small points of reflected light, close to the lower margin of the membrana tympani; these are slightly larger in the left. The throat is somewhat red and swollen. Both Eustachian tubes are pervious, but the air enters irregularly and with a flapping sound. The tinnitus is constant and very distressing. It is very variable, but most generally like the waving of the wind through trees.

On the 16th he had got fresh cold and was considerably deafer, and required to be shouted to ere he could hear; the watch was heard only on pressure, and not at all over the temporal regions; the membranæ tympani were of a dull yellow colour, and the bright spots had disappeared. Complained much of a loud pumping noise which prevented him from sleeping.

On the 22d the noises were somewhat less troublesome. The hearing distance was half an inch in the right ear. Both membranæ tympani were uniformly dull, having a sodden appearance. No air was heard to enter the middle ear.

On the 12th of February the hearing distance had increased to three inches in the right ear, and to half an inch in the left. The progress of the case was thenceforth satisfactory. The hearing gradually returned, and by the end of March he could hear as well as ever he did.

The treatment consisted in the application of leeches to the orifice of each meatus, free counter-irritation over the mastoid processes, from which a discharge was kept up for nearly two months, and in the administration of mercurials so as gently to affect the mouth, and followed by quinine and cod-liver oil, etc.

This patient was seen about three months ago. His hearing remained perfect, and his general health was much improved.

5. *Catarrh of Middle Ear with discharge through the Membrana Tympani.*—Mary Ford, æt. 11, daughter of the above patient, has had a discharge from the right ear for two months. Attacks of earache, followed by deafness, had existed more or less for some weeks previous to the appearance of the discharge from the ear.

The hearing distance is three inches. The meatus is red and tender, and contains much thickened epithelium. The membrana tympani is also thickened, and has a macerated appearance; opposite the opening of the Eustachian tube is a very small perforation in the membrana tympani, through which a mucous discharge is seen coming from the cavity of the tympanum. The mucous membrane of the fauces is thick and red, and the tonsils are enlarged. Air passes, however, freely into the tympanum.

The meatus and membrana tympani were washed over with a solution of nitrate of silver, fifteen grains to the ounce. This was repeated occasionally as long as the discharge continued. She was also ordered cod-liver oil and the muriate of iron, with moderate counter-irritation behind the ear.

Three months afterwards she was considerably improved. The discharge had ceased for six weeks, and the opening in the drum had closed. The hearing distance was upwards of two feet. The membrana tympani was still dull, and more concave than natural. When last seen, three months ago, the hearing was continuing to improve.

6. *Case of Polypus in Right Ear.*—James Jobson, æt. 21, engineer; Jan. 8.

—Three or four years ago, was annoyed with excessive itehiness in the right ear. To relieve this he got into the habit of picking it with anything that came in his way. Some time after he observed a slight discharge from the ear, which has continued ever since, and is occasionally profuse. He suffers much from tinnitus and a feeling of oppression in his head, especially when at work.

The hearing distance is four inches. On examination it appeared at first as if the whole membrana tympani was removed, and the part visible was the mucous membrane of the tympanic cavity. On using the probe, however, the membrana tympani was found to be concealed by a very vascular and flattened polypus, which was attached by a narrow neck to the floor of the meatus, close to the margin of the membrana tympani. The tumour was easily seized by its base, and the greater part of it brought away. After its removal a small perforation was seen near the posterior and lower margin of the membrana tympani, which seemed much congested and fallen inwards. The Eustachian tube was found to be shut on that side.

Feb. 19. The base of the polypus has been touched two or three times with the nitrate of silver, and has now entirely disappeared and the discharge along with it. The painful sensations in his head when at work have likewise gone; the Eustachian tube opened a few days after the removal of the polypus; the watch is heard at the distance of six feet; and the opening in the membrana tympani has closed, but apparently it is only covered by the mucous membrane of the tympanum.

7. *Eczema of Auricles and Meatus; Great Induration of the Meatus in both Ears.*—Mrs Dewar, æt. 55; *Jan. 8.*—For upwards of two years has been gradually losing her hearing. She has all along had great itehiness in the ears and has suffered much from tinnitus, which is constant, and at night very distressing. At present the hearing distance is half an inch in the right ear, and one inch and a half in the left.

Both auricles are nearly twice their natural size; they are hot and red, and covered with thick crusts, and there is a thin sticky discharge exuding from the surface. The surrounding parts are in much the same state. Both passages are much swollen and indurated, and so contracted as not to admit the point of the smallest speculum. Indeed the right is so narrow as scarcely to allow a common-sized probe to enter. There is a thin milky discharge coming from both, which has run down and excoriated the cheek and neck.

The crusts adhering to the auricles were removed, the parts thoroughly cleaned and dried, and then the whole was freely rubbed over with a thirty-grain solution of nitrate of silver. As far as the contracted state of the passages would admit, the same solution was applied to them by means of a piece of cotton wool held in Wilde's ear-forceps.

Feb. 5. The nitrate-of-silver solution has been applied twice a-week for a month, and with much relief. The pain, heat, itehiness, and discharge have disappeared, and the auricles have nearly regained their natural appearance. The left meatus is quite open, and the membrana tympani is now in a healthy condition. The right meatus, however, is still much indurated and contracted, and remains little affected by the nitrate of silver.

March 12. The right meatus has been rubbed twice a-week, with a sixty-grain solution of nitrate of silver. The indurated state of its walls has subsided, and the parts have resumed their natural aspect. The tinnitus has disappeared, and she hears perfectly. Six months afterwards, the parts remained quite healthy.

8. *Deafness resulting from dense atheromatous deposits in both Membrana Tympani.*—Wm. Greenhill, æt. 30; *Jan. 8.*—Was a sailor on board one of the ships engaged at the bombardment of Sebastopol. He dates the commencement of his deafness from that time; for after the engagement he was sensible of a hissing noise in his ears, which has continued ever since. He was also much exposed during that winter to cold and wet, and had repeated attacks of pain in the ears and head. He is now so deaf that he says he could not hear a cannon go off beside him.

The appearances on examination are much the same in both ears: the meatus dry and white, and the membrana tympani much thickened and almost completely transformed into dense masses of cretaceous deposit. The case was evidently a hopeless one.

9. *Loss of Hearing from destruction of Membrana Tympani—Exostosis in Meatus.*—James Miller, æt. 25.—The hearing is quite lost in the right ear, from which there has been a copious discharge for the last four years.

On cleaning out the passage, a small exostosis is visible, growing from about the middle of the floor of the meatus, and projecting upwards by a narrow neck. This growth was not interfered with, though it could easily have been broken off with a pair of forceps, as the deafness was seen to be caused by the condition of the deeper parts,—the membrana tympani being almost entirely removed, and the mucous membrane of the tympanic cavity being thick and very vascular.

10. *Chronic Inflammation of Tympanum and Membrana Tympani—Polypi in both Ears.*—William Bryan, æt. 15; Jan. 8.—About fourteen months ago, had repeated attacks of pain in the right ear, followed by gradual deafness, and after a few weeks by discharge. In about three months the other ear became similarly affected. He now complains of pain in the head, a feeling of pressure in the ears, great depression of spirits, and occasional attacks of giddiness. The watch is heard on pressure on the right ear, and at the distance of two inches from the left. The tonsils are somewhat enlarged, the mucous membrane of the throat and nose is thick and red; both Eustachian tubes are impervious, and there is profuse discharge from both ears.

There is a large polypus filling up the right meatus and projecting externally. The left meatus is much swollen and thickened, and the bottom of it filled up with several small polypi. There is no portion of the membrana tympani visible in either.

The larger polypus, which was of a firm consistence, was removed by means of Wilde's snare. It was attached by a broad base to about the middle of the posterior wall of the meatus. The smaller polypi in the left ear were broken up and destroyed as much as possible. They were chiefly situated in the groove at the inner extremity of the meatus, close to the lower margin of the membrana tympani.

15th.—The remains of the polypi were freely touched by the galvanic cautery.

22d.—Since last week, whether in consequence of fresh cold or of the too free application of the cautery, has got an attack of acute inflammation of the right meatus, which is much swollen and very tender; the stump of the polypus has also swelled up. In the left the polypi have disappeared. The left Eustachian tube is still impervious.

12th February.—The discharge has now ceased from the left ear. The air enters the middle ear with a gurgling sound. The hearing distance has increased to between four and five feet. In the right, the polypus, which has been occasionally touched with nitrate of silver, has almost disappeared, and the membrana tympani has become visible: its posterior and inferior portion is seen to be granular. Eustachian tube still shut.

25th November.—After nearly a year this patient is still under treatment from time to time. His case has been an exceedingly obstinate and troublesome one. The granular condition of part of the right membrana tympani was very difficult to get rid of, and after a time it appeared in the left also. The granulations, when destroyed one week by some escharotic, generally the solid nitrate of silver, had often reappeared by the next. The right Eustachian tube was long in becoming free; while the left was one week open,—the next shut. The progress of the case was likewise much retarded by occasional acute attacks of irritation in the middle ear, and by attacks of cold in the head, and sore throat; and at one time there was for several weeks a small perforation in the right membrana tympani. Keeping in view, however, that

the primary disease in the case was a chronic inflammation, or hypertrophy of the mucous lining of the tympanic cavity, and that the affections of the membrana tympani and external meatus were merely secondary, and dependent upon the deeper irritation, means were perseveringly used for the cure of this unhealthy state of the middle ear. These consisted chiefly in very long continued counter-irritation, followed by, for some weeks, small doses of the bichloride of mercury, with quinine and iron or other tonics, according to circumstances. The result has been, that at present the hearing is almost perfect, the watch being heard on both sides at a distance of between five and six feet. The meatus and membranæ tympani have nearly resumed their healthy appearance. Owing, however, to an apparently relaxed and weak state of the membranes, they occasionally fall inwards when he catches cold, and the deafness slightly returns for a day or two; that he will ultimately get quite well there can be no doubt.

11. *Abscess in Anterior Wall of Meatus*.—Mrs Dickson, æt. 25; Jan. 15.—Has had severe pain in the left ear for the last ten days, in consequence of the formation of an abscess in the meatus, which is now pointing anteriorly. It contained about a teaspoonful of pus, and its evacuation was followed by immediate relief.

12. *Congestion of Middle Ear—Occlusion of Faucial Orifice of Eustachian Tubes*.—Jane Hastie, æt. 10.—About two months ago, deafness came on rather suddenly after a cold, but it was neither preceded nor followed by pain in the ears. Both membranæ tympani were found on inspection to be of a dark leaden, almost black colour, and much more concave than in the normal state of the parts. These appearances were doubtless caused by a congested state of the middle ears, for both Eustachian tubes were impervious. The throat was also red and swollen. The fauces were washed over with a strong solution of nitrate of silver, and the acetum lyttæ applied freely behind the ears. No opportunity was, however, given of observing the effect of this treatment, for the girl did not again make her appearance at the dispensary. Doubtless, the symptoms would disappear in a week or two.

13. *Eczema of Auricle and Meatus*.—Elizabeth Blaikie, æt. 50; applied Jan. 15, on account of an eczematous condition of the right auricle. The meatus was similarly affected, and, besides, contained a mixture of pus and thickened epidermis. After this had been removed, and a few applications of a fifteen-grain solution of nitrate of silver made to the auricle, meatus, and membrana tympani, followed by the employment of the weak citrine ointment, the parts got into a healthy state, and the hearing improved. The left ear contained a large polypus projecting from the meatus; it was the size of a cherry, dense white, and almost cartilaginous; it had existed for upwards of forty years. For many years the discharge which had long accompanied it had ceased, and she had suffered no inconvenience from its presence; and, satisfied with the improvement which had taken place in the right ear, she was unwilling to have it interfered with in the meantime.

14. *Loss of Membrana Tympani after Scarlet Fever—Thickening of Mucous Lining of Tympanum*.—Thomas Smith, æt. 12; Jan. 22.—Has had a profuse discharge from the left ear since he had scarlet fever, five years ago. The hearing distance is two inches. On examination, the membrana tympani is entirely gone, and the lining membrane of the tympanum is seen to be thick, red, and swollen. To reduce this exuberant state of the mucous membrane of the middle ear, it was washed over with a strong solution of the nitrate of silver—one drachm to the ounce. After six weeks' treatment the discharge ceased, with the occasional exception of a scarcely appreciable mucous discharge. The hearing distance had increased to four or five inches, and the ear felt quite comfortable. No benefit was derived in this case from the use of the artificial membrana tympani.

15. *Chronic Inflammation of Tympanum—Polypi in both Ears*.—Wilhelmina

Taylor, æt. 12; Jan. 29.—About three years ago, first had attacks of earache, followed by temporary dulness of hearing. These attacks increased in frequency, and were generally followed by slight discharge, which for some time ceased spontaneously after a week or two. For the last twelve months, however, the discharge has been profuse, and latterly, her hearing has become much impaired. The watch is heard on application to the right ear, and at the distance of six inches from the left. The right Eustachian tube is impermeable, the left free.

In the right meatus are several small polypi, filling up the inner half of the passage, and concealing the membrana tympani. In the left is a polypus the size of a large bean. This was removed by Wilde's snare, and the smaller growths in the right ear were broken up as much as possible, and when the bleeding had ceased they were touched by the galvanic cautery. The subsequent progress of the case was satisfactory. The remains of the polypi were touched twice a-week, sometimes with one escharotic, sometimes with another. Upon the whole, the nitrate of silver, though somewhat slow in its operation, was the best. The strong nitric acid answered very well. A small pellet of cotton wool held in Wilde's ear-foreeps was dipped into the acid, and then applied through the speculum. In this way the smallest polypus or granulation may be touched without the slightest fear of the acid spreading upon the sensitive walls of the meatus. The potassa cum calce was also used; but it did not answer so well, causing more pain than either the nitrate of silver, nitric acid, or the galvanic cautery.

At the end of two months the discharge had ceased. The hearing distance had increased to five feet in the right ear, and to three feet and a half in the left. The membrana tympani, however, remained in both ears somewhat dull and thick.

16. *Right Membrana Tympani destroyed—Congestion of Left Tympanum and Membrana Tympani.*—William Wood, æt. 25.—Has had very imperfect hearing with the right ear since an attack of measles in his childhood. About ten days ago he suddenly became deaf in the left ear. The hearing distance is one inch.

The right membrana tympani is nearly removed, a small edge only being left. The mucous membrane of the middle ear is seen to be thick and red. There is, however, but a slight mucous discharge. The left meatus is dry and red at its inner portion, the membrana tympani is very concave, and of a dull red colour. The space of reflected light is very large; there are numerous enlarged vessels running across the membrane, and there is great vascularity along the course of the malleus. The Eustachian tube is impervious.

The application of a few blisters behind the ear, with the use of a stimulating gargle, removed the deafness in about a fortnight.

17. *Catarrh of Middle Ear with discharge through the Membrana Tympani.*—Daniel Macfarlane, æt. 18.—Since an attack of scarlet fever many years ago, has been liable to occasional fits of deafness, accompanied by discharge from the left ear. The present attack came on with cold in the head two months ago, and has lasted longer than on any previous occasion: the discharge has also been more copious. The hearing distance is four inches. The meatus is found to be full of a thin ropy discharge; on removing which, there is visible a small perforation close to the lower edge of the membrana tympani. The membrana tympani is of a bright red colour, and there are several large granulations along its inferior margin. These were destroyed by the nitrate of silver; and by the daily use of the syringe and free counter-irritation, the discharge subsided, and in about three weeks the opening in the membrane closed, and the hearing returned as good as ever.

18. *Chronic Inflammation of Meatus—Excessive Itching in the Ear.*—James O'Donnel, æt. 30.—Complains of an intolerable itching in both ears. He was a patient at the dispensary about a year ago, on account of chronic inflammation, with discharge, of the meatus. He was then cured of this and remained

quite well till about six months ago, when he began to feel an itchiness deep in the ears. Latterly, it has become almost unbearable. The hearing is scarcely affected.

There was removed from the bottom of each meatus a mass of thickened epidermis, which formed a complete cast of the inner third of the canal and membrana tympani. The parts were then smeared over with the brown citrine ointment, and he returned the week after to say that the itching had entirely disappeared.

19. *Deafness from loss of both Membranæ Tympani—Unhealthy state of Tympanum.*—Anne Watt, æt. 4.—An instance of neglected discharge,—a case very commonly met with, both in dispensary and private practice. The discharge was first observed when cutting her first teeth, and was not interfered with, in the hope that it would go off. The child is now nearly quite deaf; both ears are tightly shut up with plugs of cotton wool; on removing which, the matter gushed out. Both membrane tympani are quite removed, and the middle ear filled up with exuberant granulations, or rather by small polypi. The child was not again brought back.

20. *Small Polypus concealed in the groove at the inner extremity of Meatus.*—John Napier, æt. 35.—Applied on account of a slight discharge, which had existed for three or four months, from the right ear. Latterly, his hearing had become impaired, and he had occasionally observed a slight mixture of blood with the discharge. Hearing distance, six inches.

After washing out the meatus, three polypi, about the size of small currants, were seen growing near the inferior margin of the membrana tympani, which was thick and dull. Their attachments were so slight that they easily came away with Wilde's forceps. After this the discharge diminished, but did not cease; and it was not till a month afterwards, when another small polypus was discovered and removed, that the discharge disappeared, and the hearing returned. The polypus was lying concealed in the groove at the inner extremity of the meatus, close to the membrana tympani, and was found out by means of the probe,—it being invisible by the ordinary examination with the speculum.

21. *Catarrh of Tympanum, with discharge through an opening in the Membrana Tympani.*—James Ramsay, æt. 9; Feb. 12.—Had slight earache three weeks ago, which was followed by discharge from the left ear. Hearing distance, four inches.

The meatus is swollen and red, and contains a thin ropy discharge, with pieces of detached cuticle. The external layer of the membrana tympani is also thickened, and here and there detached, leaving the membrane beneath very red and tender. In the centre of the anterior vibrating portion is a small opening into the tympanum, through which a muco-purulent discharge is escaping from the middle ear.

By perseverance in the use of iron, quinine, and cod-liver oil, with free external irritation, the daily use of the syringe, and an occasional wash with a weak solution of nitrate of silver, at the end of two months the discharge had ceased, the opening in the membrana tympani closed, and the hearing had nearly quite returned, the hearing distance being five feet.

22. *Thickening of Membrana Tympani and Tympanum.*—Mary Danson, æt. 55; Feb. 19.—Ascribes her deafness to a severe cold she got when sitting in a draught about a year ago. Has had several colds since then, with occasional uneasiness in the ears, and her hearing is always then much worse. The hearing distance is one inch on the right side and four on the left. The noises are also troublesome.

The meatus on both sides is dry and smooth. The membrana tympani is dull, opaque, thickened, and collapsed. The Eustachian tube permeable, but with difficulty, and air enters with a crackling sound. The appearances are much the same in both ears.

23. *Catarrhal Inflammation of Middle Ear.*—Robert Grant, æt. 13.—A fort-

night ago, took severe pain in the left ear, which continued for three days, and was relieved by discharge. Hearing distance, contact.

The meatus is much swollen, and tender; the cuticular layer much thickened; and detached in large white flakes; the membrana tympani has a sodden, macerated appearance, and has a small perforation in the centre. The case was in every respect almost identical with that of case 21. At the end of six weeks the hearing had increased to eight inches, and the discharge was gradually diminishing, when he discontinued his attendance.

24. *Inflammation of Tympanum and Membrana Tympani—Occlusion of Eustachian Tubes.*—William Black, æt. 11; Feb. 19.—Has suffered from deafness, with occasional attacks of earache, for a fortnight. The hearing distance is one inch and a half on the right side, and four inches on the left. He complains of a feeling of weight or pressure upon his ears, and has constant tinnitus,—the noises being very variable and very loud.

The appearances presented on examination are much the same in both ears. The meatus dry, vascular, and very tender; its inner third of a deep red colour. There is great vascularity in the upper portion of the membrana tympani, especially along the course of the malleus. The lower portion is dull and concave, and both Eustachian tubes are impervious.

He was treated last summer for a similar attack, which was brought on by a cold, from too long bathing in the sea, and recovered his hearing in about a month. On this occasion the attack was much more tedious; and notwithstanding the employment of active measures to check the progress of the inflammatory action, lymph became deposited to a large extent upon and between the layers of the membrana tympani, the usual cerumenous secretion disappeared, the meatus became dry and scaly, and in a short time the membrana tympani was of a uniform dull yellow colour. By the end of March the lymph began to be absorbed, and about the end of April the membrana tympani had cleared to a great extent, and had almost regained their natural translucency. Still the Eustachian tubes remained impervious, and the deafness as bad as ever. On several occasions the Eustachian catheter was passed into the mouth of the Eustachian tube, and air blown into the middle ear. This was invariably followed by slight crackings in the ears; and for the afternoon the hearing was much improved, but by next morning the deafness had returned as before. This was continued from time to time, with uniformly the same results,—only temporary benefit following the passage of the catheter; and it was not till the beginning of the warm weather in June, when some loud explosions took place in the ear, and were followed by a perfect cure of the deafness,—the membrana tympani having at last resumed their normal curvature.

25. *Chronic Discharge, with thickening of Membrana Tympani.*—Mrs McKail, æt. 28; Feb. 26.—Has had a copious discharge from one ear for upwards of three years. The membrana tympani has a macerated appearance, like a piece of washed leather, being evidently very much thickened. It was washed over with a strong solution of nitrate of silver. The patient, however, did not again apply at the dispensary.

26. *Chronic Inflammation of Tympanum and Membrana Tympani.*—Charles Gilchrist, æt. 18.—Has been gradually losing his hearing for the last four years. From the nature of his occupation, he is much exposed to cold and wet; and occasionally, when he has a cold, is almost quite deaf. Hearing distance,—right ear, half an inch; left, three inches and a-half.

Both passages are dry and smooth, and the membrana tympani dull, white, and collapsed. Air enters the middle ear on the left side with difficulty, and not at all on the right. The mucous membrane of the throat is thick and red.

He was directed to take, twice a-day, one-sixteenth of a grain of the bichloride of mercury, with two grains of quinine, to apply smart counter-irritation, and to use a stimulating gargle for the throat; to continue this treatment for six weeks, and then to return. He had come a considerable distance from the country, and up to this time has not reappeared.

27. *Occlusion of Eustachian Tubes*.—Helen Seott, æt. 47; *Feb. 26*.—Three months ago, after exposure to cold, began to feel slight deafness. In the course of a few days, she says, she was almost quite deaf, with a painful feeling of pressure in her ears and head. After two or three weeks the hearing began to return, and now she hears the watch at the distance of six inches from the right ear, and eighteen inches from the left. During the last few weeks the improvement in her hearing has not continued, and she thinks she scarcely hears so well as she did a month ago.

Both membranæ tympani are very concave, and of a somewhat dark colour, especially the right, in which the usual spot of reflected light is very large. The throat is somewhat swollen, and the right Eustachian tube impermeable.

Free counter-irritation was employed for the next fortnight, and the fauces washed from time to time with a strong solution of nitrate of silver. Under this treatment the hearing of the left ear rapidly improved; but that of the right remained as before. The Eustachian catheter was accordingly used every third or fourth day, and air blown through it into the tympanum, so that in the course of another fortnight the air passed freely into the middle ear, and the deafness entirely disappeared.

28. *Calcareous Deposits in Membrana Tympani*.—David M'Laren, æt. 18; *Feb. 26*.—States that he lost the hearing in the right ear in consequence of an injury of the head, received in his childhood. In the left ear, deafness has been coming on for about four years. He attributes it to cold, wet, and exposure when at sea. The hearing distance is contact in the left, and two inches in the right ear.

The right membrana tympani is much thickened, and there is a large opening about its centre, involving a loss of nearly one-third of the whole membrane. There is no discharge; the parts are all thick and white. The left is thick and fallen inwards, and almost one mass of atheromatous deposit: a state of matters apparently always incurable.

29. *Abscess in Walls of Meatus*.—Mrs Cameron, æt. 25.—Has suffered severe pain in the left ear for upwards of a week. On examination this was found to be caused by the formation of an abscess in the anterior wall of the meatus. Relief followed the evacuation of its contents.

30. *Polypus*.—Mrs Dennie, æt. 28; *Feb. 26*.—Six months ago, had a severe attack of pain, followed by suppuration, in the left ear. The discharge has continued profuse since then; and latterly she has got very deaf. Hearing distance, contact.

There was a large polypus filling up the meatus, and on its removal by means of Wilde's snare, the hearing was improved. No opportunity was given of seeing the state of the membrana tympani, as the patient did not return.

31. *Chronic Inflammation of Tympanum and Membrana Tympani*.—Francis Reid, æt. 20.—His hearing has been gradually diminishing for the last two years, about which time he was much exposed to cold. He has never had any pain in the ears, but the tinnitus has been very troublesome and constant. The hearing distance is two inches on the right, and three on the left side.

The meatus is dry and white. The membrana tympani is white and thickened; the handle of the malleus is very prominent, and the membrane itself fallen inwards towards the promontory. Both Eustachian tubes are permeable, but the air enters with a flapping sound. No improvement followed in this case, and at his last visit he was even deafer than before, and the noises fully more troublesome.

32. *Case of Nervous Deafness*.—Alex. Eddington, æt. 40.—States that, five years ago, after an attack of paralysis, he gradually lost his hearing. During the last two years his hearing has been gradually returning,—the hearing distance being one inch on either side. His speech is still much affected; his gait is unsteady, and he gives a very confused account of his previous history. On examination no trace of disease is visible in either ear, both membranæ

tympani being perfectly healthy. The ease was evidently not one for any special local treatment, and he was not seen again.

33. *Supposed foreign body in the Ear.*—John Stirling, æt. 4; *March 12.*—Was brought by his mother, in great distress,—a piece of glass bead being supposed to have been put into his ear when at play with some other children a few days previously. Various attempts had been made to extract it, but ineffectually, and there had been a good deal of bleeding in consequence. The child screamed so violently on the least attempt at making any examination of the ear, that it was necessary to put him under chloroform. A large hardened clot of blood was removed from the meatus, and on bringing all the parts into the field of the speculum there was found to be nothing in the ear after all. The mother went away quite satisfied.

34. *Case of Deaf Mutism.*—George Farmer, æt. 18 months.—His mother thinks that till five months ago he heard as her other children. He was easily awakened, and seemed sensible of noise. Latterly, he has become very passionate. About five months ago, she observed a sealy eruption round both ears, and the child was continually picking at them; they were apparently very itchy, for rubbing them always quieted him. Since that time his mother began to think that he was beginning to be insensible to any but the loudest sound. At present he is evidently quite deaf, and insensible to any sound.

The external meatus and surrounding parts are eczematous, also the meatus internally; on clearing away some scales the membrana tympani is brought into view, distinctly thickened, and of an almost glassy appearance in both.

35. *Congestion of Middle Ear—Occlusion of Faucial Orifice of Eustachian Tubes.*—Jessie Watson, æt. 20.—Has been very deaf for about a week, subsequent upon a cold and sore throat. The meatus in both ears contains a good deal of soft cerumen. No improvement, however, took place on its removal. The membranæ tympani are both of a dark blue colour, and very much fallen inwards; both Eustachian tubes are shut, and the throat is swollen and red. The faucial orifices of the Eustachian tubes—at least as near as possible—were touched with the solid nitrate of silver, and she was desired to gargle the throat very freely. In the course of ten days several explosive took place in the ears, and the hearing returned.

36. *Chronic Inflammation of Lining of Tympanic Cavity and of the Membrana Tympani.*—Margaret Angus, æt. 7; *March 19.*—Has been dull of hearing for five months, and within the last three weeks her deafness has much increased. During all this period, and for some time before the dulness was observed, she had severe attacks of earache. At present the hearing distance is four inches on the right side and two on the left.

The meatus is very large, and admits the point of the little finger. In the left ear the membrana tympani is very vascular along the handle of the malleus. The edges of the membrane are comparatively clear, but there is a large mass of dense lymph deposit occupying its centre, and numerous enlarged vessels are seen running across it. In the other ear there is less opacity, but more general vascularity. The mucous membrane of the throat is thick, and both Eustachian tubes are impermeable.

On the 23d of April, when she made her last visit, the hearing was much improved: the hearing distance being three feet on the left side and twenty inches on the right. The membranæ tympani were still dull and thickened, and very far from being in a healthy state; both Eustachian tubes were permeable, and the condition of the throat improved. The treatment during this time consisted in free counter-irritation, with small doses of the bichloride of mercury, with iron and cod-liver oil.

37. *Chronic Thickening of Tympanum and Membrana Tympani.*—James Reid, æt. 10; *March 19.*—Has been deaf for eighteen months. The deafness was preceded by many attacks of earache. When a child, had a discharge for several months from the right ear. It ceased spontaneously.

The hearing of the right ear is almost gone,—the watch being only heard on pressure; the left is little better. The right membrana tympani is covered with a thick viscid discharge; on removing which, the membrane is seen to be much thickened and fallen inwards; there is also a small perforation about its centre; the left is thickened and likewise concave; the thickening is irregular, showing numerous small points of reflected light; parts of the membrane have a vitreous appearance. He cannot inflate either ear; the throat is red and swollen, and the tongue is red, hacked, and irritable.

38. *Large Aperture in Membrana Tympani*.—Smith Ker, æt. 17.—Has had discharge from the right ear for five years; has never had pain or uneasiness beyond discomfort from the offensive nature of the discharge. Hearing distance three inches.

The meatus is narrow, and the membrana tympani is visible with difficulty. It is much thickened, and there is a large deficiency in its posterior and inferior portion, amounting to nearly one-third of the whole.

39. *Anchyllosis of Stapes*.—Charles Lyon, æt. 28.—For eight or ten years has had great dulness of hearing. During the last six months this has much increased. He suffers much from tinnitus, especially from a ticking in the ears, which is very troublesome. He hears quite well when there is much noise going on around him: when he is at work, or in the street, or in a railway carriage. He hears better sometimes when he gives the auricle a sudden pull; sometimes also after yawning; but then only for an instant. The hearing distance is half an inch on the right, and nearly two inches on the left side. The appearances presented, on examination, are much the same in both ears. The meatus is dry and smooth, with numerous tortuous superficial vessels along the floor of the tube. The membrana tympani is nearly normal in its appearance; but there is slight milkiness of both. The case presents many of the signs given by Mr Toynbee as characteristic of anchyllosis of the stapes to the fenestra ovalis.

40. *Case of troublesome Tinnitus unconnected with visible disease in the Ear*.—David Macdonald, æt. 23.—Complains of a constant singing noise in the right ear, which becomes aggravated when he lies down at night. It came on first about a year ago after bathing, when he was deaf for about a week. It then left him for a time, occurring at irregular intervals. For the last six months, however, it has never ceased. He hears perfectly.

Nothing abnormal could be detected in the membrana tympani, and after a long attendance the noises remained exactly as at first.

41. *Hæmorrhage from the Ear in consequence of an Injury*.—Thomas Aird, æt. 70.—States that for many years he has had considerable dulness of hearing. About three months ago, he fell on the ice on his head, and was insensible for some hours afterwards. At the time there was a good deal of bleeding from the right ear. For some weeks he was nearly quite deaf on that side; but his hearing has gradually been returning, and he now hears almost as well as he did before the accident.

The membrana tympani is dull and white, but presents no appearance of any former rupture. There is a considerable piece of hardened clot still adhering to the floor of the meatus, and the superficial vessels in the meatus are seen to be large and tortuous. Apparently the hæmorrhage had come from the rupture of some of these vessels, though probably there had also been some effusion of blood into the cavity of the middle ear.

42. *Case of Polypus*.—Bernard MacGowan, æt. 16.—There is a large florid polypus projecting from the right meatus, accompanied by profuse discharge, which has existed for upwards of five years. It was easily removed by Wilde's snare; but the state of the deeper parts was not ascertainable owing to the bleeding. The hearing was apparently quite lost, and he did not again show himself.

43. *Congestion of Tympanum in consequence of Occlusion of Eustachian Tubes*.

—Mrs White, æt. 25; *April 2*.—Became rather suddenly deaf a fortnight ago, after a severe cold and sore throat. Complains of great pressure on the ears. The watch is only heard on placing it against the ear.

Both passages contain a good deal of soft cerumen. No improvement, however, followed its removal. Both membranæ tympani are of a dark, dull leaden colour. The triangular bright spot is very much enlarged, and the membrana tympani on both sides is very much driven inwards. Both Eustachian tubes are shut.

In the course of a fortnight several loud cracks took place in the ears, and were followed by the immediate return of the hearing. The feeling of pressure in the head disappeared at the same time.

44. *Abscesses in Meatus*.—James Wilson, æt. 21.—Has suffered for five or six months from a constant succession of small boils in the external meatus. The hearing is unaffected, unless temporarily from the swelling before the boil opens. There is also slight discharge from the meatus. The parts were washed occasionally with a twenty-grain solution of nitrate of silver. Slight external irritation was kept up for some weeks, and iodide of potass given internally. In the course of a month the parts had resumed their natural appearance.

45. *Catarrhal Inflammation of Tympanum—Partial loss of Membrana Tympani*.—Margaret Fairgrieve, æt. 4.—Has had profuse discharge from both ears since she was ten months old. Lately, there have been occasional discharges of blood, and she has become very deaf. She still speaks well, however.

The right meatus is much swollen and ulcerated at its orifice, in consequence of the irritation caused by the plug of cotton wool with which the ear is stuffed. It is full of thick cheesy discharge; the membrana tympani nearly removed, and the mucous membrane of the middle ear is red and swollen. The left meatus is in much the same state; the membrana tympani has a soft pulpy appearance and is fallen inwards; there is a large perforation in the anterior vibrating portion.

By the daily use of the syringe and warm water, slight external irritation, and the use of cod oil, the discharge in the course of two months had much diminished, the ulcerations healed, and the hearing had considerably improved.

46. *Chronic Inflammation of Meatus and Membrana Tympani*.—Anne Grieve, æt. 11; *April 23*.—Began to suffer from deafness in the left ear about five months ago, after an attack of earache. She has had occasional attacks of pain since then, and latterly, there has been a slight discharge. Hearing distance, five inches.

The meatus contains a good deal of thick cheesy matter; the membrana tympani is dull; numerous straight vessels run across it towards the centre; and it is very vascular along the course of the malleus, which is very prominent. Air enters the middle ear with a flapping sound, very unlike the normal crackle as heard in the other ear.

The meatus and membrana tympani were washed with a solution of nitrate of silver, fifteen grains to the ounce. She was directed to take the thirtieth of a grain of the bichloride of mercury twice a-day, and to paint over the mastoid process twice a-week with blistering vinegar.

May 21.—Has continued the above treatment till this date, except during an interval of ten days, when the mercury was omitted. The watch is now heard at the distance of four feet; the discharge has long ceased; the membrana tympani has regained its polish, but is still more concave than in the healthy ear. When seen some months later this patient heard quite well.

47. *Polypus—Great Thickening of Membrana Tympani*.—Hannah Johnston, æt. 17; *April 9*.—Has had discharge from the right ear for five or six years. It has never been entirely absent, and occasionally it has been profuse. Hearing distance, two inches.

There is a firm fibrous polypus growing from the middle of the posterior wall

of the meatus. It was removed by Wilde's snare, and came away entire. The membrana tympani is seen to be much thickened, and numerous enlarged vessels are seen ramifying upon its surface. The discharge soon ceased, and the membrana tympani was rubbed over from week to week with a solution of nitrate of silver, one drachm to the ounce. This was followed by a certain improvement in the hearing; but the exact hearing distance at the end of the treatment is not stated.

48. *Foreign Body in the Ear—Ulceration of Membrana Tympani.*—Thomas Sandeman, æt. 11.—About four months ago, came home from school, crying out with pain in one of his ears. A few days after, a discharge commenced, which has continued up till now. He is quite deaf in that ear.

On washing out the meatus there is discovered at the bottom of it a large bean, filling the canal so closely that its removal was attended with some difficulty. This was accomplished by first passing Wilde's snare over it, which cut it across, and then removing the halves separately. The membrana tympani was much inflamed and thickened, and, as well as the inner third of the canal, much ulcerated. In the course of a fortnight the parts had resumed their natural appearance, and the hearing was unaffected.

49. *Chronic Inflammation of Tympanum—Great Thickening of Membrana Tympani.*—Sarah Bryce, æt. 9; April 16.—Since a child she has been subject to attacks of earache; and some years ago had discharge from the right ear, which lasted for four months and ceased spontaneously. The deafness has been but slight till within the last eighteen months, since which period her hearing has become much affected. The hearing distance is half an inch on the right, and two inches on the left side.

The right meatus is dry and white; the membrana tympani very much thickened, having almost the appearance of a piece of ivory or bone. It is thickened very irregularly, and presents several spots of reflected light. Here and there are depressions as if ulcerations had formerly existed and had afterwards healed. It feels quite hard when touched with the probe, and about a line from its inferior margin is a belt of enlarged vessels. The thickening is greatest in the upper part of the membrane. The appearances in the left ear are somewhat similar, but the opacity is not so decided.

At the end of two months, very much to my surprise, the hearing had improved; the hearing distance being two feet in the right ear, and eighteen inches on the left. The treatment consisted in severe counter-irritation, mild mercurials, and latterly, iron and quinine. There was little apparent change in the membrane itself, the red zone of vessels had, however, disappeared.

50. *Case of Nervous Deafness.*—Helen Smith, æt. 20.—Deafness came on about four years ago, when she fell into a weak state of health and had much mental anxiety. In about a year she became as deaf as she is at present, requiring to be spoken to in a very loud voice close to the ear. She has a very anæmic appearance, and the catamenia have not appeared for the last four years. She suffers much from cold extremities; the tongue is red, hacked, and very irritable; and her appetite is capricious, and her digestion bad.

She has never suffered from tinnitus, and the watch is feebly heard only on pressing it against the ear. There is not on examination the slightest appearance of anything abnormal in either ear. The case appears to be one of weakness of the auditory nervous apparatus.

After six months' treatment her general health had much improved, but the hearing remained as before. A pair of Mr Rein's acoustic auricles was then provided for her, and with their assistance she was enabled to hear with comparative comfort.

51. *Chronic Inflammation of Membrana Tympani.*—Christina Pringle, æt. 26; April 16.—Has been gradually losing her hearing for the last eighteen months, has never had pain, and only occasional tinnitus; it is much aggravated when she gets cold, and latterly, she was unable to hear the bells ring in the house in which she was a servant, and lost her situation in consequence. With the

right ear the hearing distance is barely two inches, and little more than one inch with the left.

The meatus is dry; the right membrana tympani is more concave than natural, its upper portion thickened, dull, and white, numerous large vessels running along the manubrium of the malleus. The lower part is dull and concave. The appearances are much the same in the left ear; both Eustachian tubes are permeable.

A free discharge was kept up behind the ears, and one-sixteenth of a grain of bichloride of mercury given three times a-day. This treatment was persevered in for upwards of three months, with occasional intermissions of a week or ten days. There was no improvement perceptible for upwards of four weeks, when the hearing began to improve, and by the end of July the watch was heard at the distance of fourteen inches on the right side, and about twelve on the left.

52. *Case of Feigned Deafness* (?).—George Scott, æt. 16.—States that during a quarrel with his brother five days ago his hearing suddenly left him. He says he does not hear the watch when applied to the ears or the temples, but only when placed on the crown of his head.

The meatus contains a good deal of very fluid cerumen, the removal of which did not improve the hearing; otherwise there is nothing abnormal to be seen. Both membranæ tympani are perfectly healthy.

He returned a week afterwards to say that his hearing had returned as well as ever. He had come a long distance from the country, and had remained in town during the week, and there was all along a strong suspicion that he was feigning deafness to serve some purpose of his own.

53. *Congestion of Middle Ear, and Thickening of Membrana Tympani*.—Janet Hay, æt. 11.—Got deaf after a cold in the head four weeks ago. Hearing distance, one inch and a half in the right ear, and upwards of two inches in the left.

The meatus is dry; the right membrana tympani is very much drawn inwards, so much so that the parts anterior and inferior to the tubercle of the malleus are invisible; the upper portion is dull, vascular, and thickened. The left is not so concave; but the polish is lost, and it has a dark colour, and many enlarged superficial vessels are visible. Both Eustachian tubes are shut.

After a month's treatment the hearing had quite returned.

54. *Chronic Thickening of Membrana Tympani—Occlusion of Eustachian Tubes*.—Anne McCall, æt. 50.—Has been dull of hearing for two years. Two months ago her deafness suddenly increased. At present the hearing distance is two inches on the right ear, and contact with the left.

Both membranæ tympani are considerably collapsed, and the triangular bright spot is much enlarged; there is a very distinct thickening of the inferior margin of both membranes, resembling the arcus senilis in the eye; the left membrane is much more uniformly dull than the right; the throat is red and swollen, and the Eustachian tubes both impermeable.

On the 20th of May the hearing distance had increased to three inches in the right ear, and two and a half in the left. Both Eustachian tubes are now permeable.

55. *Atheromatous Deposits in Membrana Tympani*.—Mrs Hay, æt. 45.—Has been gradually getting deaf for the last twelve years, and now only hears the watch faintly on pressing it against the ear. She can assign no cause for her deafness, for beyond suffering occasionally from rheumatism she has enjoyed good health. She has never had pain in the ears, and has all along been free from the usual distressing noises.

The right meatus is dry; its dermoid layer thickened; here and there are small nodules, like small exostoses of the size of pin-heads, projecting from the floor of the meatus; the membrana tympani is normal in its curvature. Posterior to the handle of the malleus there is an irregular triangular patch of deposit apparently atheromatous; its greatest length is about two lines, and it

is situated under the external layer of the membrana tympani. Anteriorly and superiorly there are two smaller patches of similar deposit; at the free extremity of the malleus there is a small portion of the membrane quite clear, the rest of it is opaque and milky. The left is more concave than natural, and more milky in appearance. Anteriorly there is a small nodule of deposit, and posteriorly there is a large patch of nearly the same size and occupying almost the same position as that in the other ear: it has a peculiar fringe-like margin. In this ear also, as in the other, the floor of the meatus has a rough nodular appearance.

56. *Loss of Membrana Tympani after Scarlet Fever.*—Charles Morrison, æt. 11.—Has had profuse discharge from both ears since an attack of scarlet fever eight years ago. The watch is heard at the distance of four inches.

The right membrana tympani is nearly removed, the left entirely so; the mucous membrane of the middle ear is comparatively healthy.

57. *Case of Deaf Mutism.*—Helen Lonic, æt. 4; a deaf mute.—She appears to be sensible of very loud noises. The right membrana tympani appears to be healthy; there is, however, considerable opacity of the left, and several large vessels appear coursing along the manubrium of the malleus.

58. *Chronic Inflammation of Tympanum and Membrana Tympani.*—James Hume, æt. 20.—Became deaf about three months ago after a severe cold. Has had no pain, but constant tinnitus. The noises are variable, most commonly like the rushing of water. Hearing distance, contact in both ears.

The meatus is dry, white, and smooth. The membrana tympani very much collapsed, and of a pearly white colour. Air enters the middle ear with a crackling sound. This patient did not return.

59. *Occlusion of Faucial Orifice of Eustachian Tubes—Congestion of Tympanum.* Mrs Davidson, æt. 30.—Rose quite deaf about a fortnight ago. The watch is only heard on pressure over the antricles.

Both membranæ tympani are dark and congested, and much collapsed; the light is reflected from nearly the whole surface of the membrane; throat swollen and red; both Eustachian tubes, but evidently only their faucial extremities occluded, from the thickened state of the mucous membrane. It was not, however, till three or four weeks after, that the air found its way into the tympanum, and the deafness disappeared as rapidly as it had come on.

60. *Loss of Membrana Tympani after Scarlet Fever.*—Margaret Oneless, æt. 6.—Has been very deaf since she had scarlet fever about a year ago. On examination both membranæ tympani are quite removed. The mucous membrane of the right tympanic cavity is natural, the left cavity is filled up with small polypoid growths.

61. *Loss of Membranæ Tympani after Fever—Polypus in left Ear.*—Mary Duncan, æt. 20.—Has had a copious discharge from both ears since childhood. In the right ear the membrana tympani is nearly destroyed, and in the left there is a large firm polypus filling up the meatus. On removing the polypus the membrana tympani was found to be entirely absent, and the mucous lining of the tympanum much thickened.

62. *Eczema of Auricles.*—Elizabeth Elder, æt. 20.—Has suffered for three months from a thickened and eczematous state of the antricles. The hearing is unaffected. After a few washings with a twenty-grain solution of the nitrate of silver the symptoms disappeared.

63. *Catarrh of Tympanum.*—George Richardson, æt. 26; May 7.—After a severe cold, six weeks ago, suddenly lost the hearing in the left ear. The right afterwards became affected, but the dulness came on gradually. At present the hearing distance is contact in both ears. Both membranes were found on examination to be very concave, and of a dark, dull leaden colour. The triangular bright spot was very large. The throat was much swollen and red; and though air was heard occasionally to enter the middle ear, it passed with

difficulty, and with a gurgling or squealing sound, as if there was a collection of mucus in the tympanic cavity.

In the course of a week crackings took place in the right ear, which were followed by a return of the hearing to a considerable extent. Soon after the same took place in the left ear, and by the beginning of June his hearing was as usual.

64. *Rupture of Membrana Tympani*.—James Adam, æt. 23; May 7.—A fortnight ago, while blowing his nose, having at the time a cold in the head, felt a sensation of something bursting in the ear. This was followed by discharge from the ear, and for the last two or three days there has been considerable pain.

The meatus contains a good deal of mucous discharge, on removing which there is seen to be a rupture in the membrana tympani, the aperture extending from the tubercle of the malleus downwards to about half-way between it and the inferior margin of the membrane. The edges of the opening were washed with a weak solution of nitrate of silver, and in the course of ten days the aperture had closed.

He returned on the 28th, having got a fresh cold, with pain and discharge from the ear. The opening had increased in size and the edges were thickened; the rest of the membrana tympani was also red and inflamed. Two leeches were applied to the orifice of the meatus, and a blister over the mastoid process, and the ear was kept carefully clean by means of the syringe. After six weeks the opening had again closed, but the membrana tympani had fallen in towards the promontory, and the watch was only heard at the distance of four inches from the ear.

65. *Chronic Inflammation of Meatus and Membrana Tympani*.—Mrs Watt, æt. 50. Has been dull of hearing for many years. Within the last six months has got very deaf, and suffers from great itchiness of the ears, with slight clear discharge. On inspection the walls of the meatus were found to be in a state of chronic inflammation, and to contain much thickened cuticle. The membranae tympani were also much thickened and white. The unhealthy state of the meatus was improved, and the itchiness relieved by a few washes of a twenty-grain solution of the nitrate of silver, and considerable improvement of the hearing followed, the precise hearing distance, however, not being stated.

66. *Complete Deafness after a Fever*.—John Melvin, æt. 5; a deaf-mute; a healthy-looking child, of healthy parents.—He heard quite well, and was speaking pretty distinctly till about two years ago, when he had a fever; which, his mother says, went to his brain. When he came out of the fever he was observed to be deaf, and latterly he has lost what speech he had. On examination both membranae tympani are seen to be perfectly healthy.

67. *Polypi in both Ears—Loss of Membrana Tympani*.—John Parker, æt. 21.—When six years of age had scarlet fever, followed by measles. Since then he has been very deaf, and has had a profuse discharge from both ears. From time to time for many years back, pieces of polypi, as they appeared externally, have been extracted by various surgeons in different parts of the country, but the benefit derived from their removal has always been very temporary. He is by trade an engineer, and suffers so much from giddiness, that he is unfit for any work which requires his ascending any height. Even when a few feet above the ground, he is afraid of falling. He has also severe attacks of pain in the ears and head when the discharge does not readily escape. The amount of matter discharged is very great. He thinks it must amount to several ounces a-day. At present the hearing distance is contact on both sides, and he requires to be spoken to in a loud voice within a foot of his head ere he can hear.

Both passages were filled with masses of firm polypi. These were removed as much as possible from week to week till the meatus was pretty well cleared in both ears. What remained was touched generally with the solid nitrate of

silver, sometimes with the strong nitric acid. He attended the dispensary regularly once a-week, coming a long distance from the country, and at the end of six months he was much improved. The hearing distance of the left ear had increased to fourteen inches; the meatus was cleared of the polypi, and the mucous membrane of the middle ear was in a healthy state; the discharge had much diminished, and was merely slightly mucous, requiring the use of the syringe only once in the two days. The right meatus was in a healthy condition, but part of a firm polypus still remained growing from the tympanic cavity; the hearing distance was four inches. The giddiness had completely disappeared, and for some time he had been at work, at a height of thirty or forty feet without feeling the least inconvenience.

68. *Catarrh of Tympanum, with discharge through the Membrana Tympani.*—Jessie Blake, æt. 2.—Has had discharge from the right ear for three months. The meatus is much swollen, and will not admit the smallest speculum; but amongst the discharge there are several small air-bells, showing that the membrana tympani is perforated.

Daily syringing with warm water was recommended, with slight counter-irritation behind the ears. The child was only brought back once, about a month afterwards, when the mother stated that the discharge was gradually diminishing.

69. *Thickening of Tympanum and Membrana Tympani.*—Robert Scott, æt. 17.—Used to suffer much from earache when a child, and has had a discharge from both ears since he was ten years old. Hearing distance, two inches on the left, and contact on the right side.

The right membrana tympani is coated with thick viscid discharge, and is red and granular; its anterior margin is densely opaque, and the whole fallen inwards. The left is very much thickened, and very concave, and evidently lying against, probably adherent to, the promontory. No air enters the left tympanic cavity. The right Eustachian tube is free, and the air enters with a sort of flap. This patient was not again seen at the dispensary.

70. *Great Concavity of the Membrana Tympani.*—Mrs Jack, æt. 40.—Has gradually lost her hearing during the last twenty years; now she requires to be spoken to in a very loud voice. She has never had any pain or tinnitus, but her voice is now harsh and inharmonious.

The meatus and its secretions are natural; the membrana tympani very much collapsed, but, otherwise, apparently quite healthy. Air enters the middle ear quite easily, but beyond the great concavity of the membrane, nothing abnormal can be detected. For such cases nothing can be recommended save an ear-trumpet.

71. *Loss of Membrane Tympani after Fever.*—John Gardner, æt. 19.—Has had discharge from both ears since an attack of fever fourteen years ago. The hearing distance is two inches and a-half on the right side and four on the left.

Both membranes are much thickened, and the posterior and inferior portion of both—amounting to nearly one half of the membrana tympani—is removed. Neither the artificial membrane nor the moist cotton increased the hearing in the slightest degree.

72. *Chronic Inflammation of Membrana Tympani.*—John Dove, æt. 43; May 21.—Has been dull of hearing, with very constant and troublesome tinnitus in the left ear, for four or five months. The hearing distance is four inches. The membrana tympani is much thickened and dull, and there is no bright spot of reflected light. The thickening is irregular, giving the membrane a mottled appearance, and there is a small patch of atheromatous deposit near the middle of its anterior margin. The Eustachian tube is impervious, and the throat swollen.

A month afterwards the hearing had increased to two feet, and the noises had almost disappeared; the treatment pursued having consisted in blistering, and small doses of mercury with quinine.

73. *Chronic Inflammation of Tympanum*.—Michael Divine, æt. 7; May 21.—Has been deaf for a month. Hearing distance, contact on both sides. Has a remarkably heavy stupid look, and labours under well-marked chorea.

Both membranæ tympani are dull, dark, and concave. The tonsils are large; and both Eustachian tubes are occluded. Under the use of the ammonio-sulphate of copper, the choreic symptoms disappeared in about a month; the hearing, however, was not quite restored till about two months afterwards, the thickened state of the fauces and the enlarged tonsils for long retarding the cure.

74. *Partial Loss of Membrana Tympani after Fever—Catarrh of Tympanum*.—Anne Dewar, æt. 12.—Has been deaf for seven years, since an attack of fever. The hearing distance is contact on the right, and four inches on the left side.

The right meatus is much thickened and full of thickened dermis. There is a large aperture in the membrana tympani. In the left there is a small aperture in the middle of the anterior vibrating portion.

75. *Case of Nervous Deafness*.—Mrs Scott, æt. 40.—Has been losing her hearing for the last three years. It is now quite gone in the right ear, and nearly so in the left. The patient is a thin, broken-down, delicate-looking woman, and has had a very large family. Her tongue is red and irritable, and she suffers much from dyspepsia and general ill health.

There is nothing abnormal visible in either ear, the membrana tympani being perfectly healthy in both.

76. *Loss of Membrana Tympani*.—John Kirk, æt. 21.—Since his childhood has had discharge from both ears. On inspection, both membranæ tympani are seen to be very much destroyed,—the right almost entirely, and about the inferior half of the left. At the bottom of the left meatus are several small polypoid excreescences, which were destroyed by the nitrate of silver. The artificial membrana tympani was of no benefit in this case.

77. *Polypus in Right Ear*.—Arch. Beith, æt. about 40.—Never remembers to have heard with the right ear. About four years ago had discharge from it, which after a short time ceased spontaneously. Since then has had occasional attacks of discharge, but for the last six months it has been constant and occasionally slightly bloody.

A large firm polypus was found filling up the right meatus. It was attached by a broad base to the middle of the posterior wall of the canal. It was removed by Wild's snare, and came away entire. In the course of a week the discharge had quite ceased, and the watch was heard at the distance of four inches, though before the removal of the polypus it was inaudible on pressing it against the temple or external ear. When last seen, a few weeks ago, the hearing distance was twelve inches, notwithstanding that he had a severe cold at the time. The membrana tympani still remained much thickened.

78. *Great thickening of Membrana Tympani*.—Alex. Stewart, æt. 62.—Has been getting deaf for the last fourteen years. Watch heard on pressure. The noises are very troublesome and constant.

The meatus is dry, smooth, and white. Both membranæ tympani are densely opaque, and much collapsed, and there are no remains of vascularity even along the course of the malleus. It is evidently not a case to be benefited by any kind of treatment.

79. *Abscess in Anterior Wall of Meatus*.—Margaret Meek, æt. 12.—Has had severe pain in the ear for the last three weeks. There is seen projecting from the meatus a bright red tumour that at first sight looked like an old standing polypus. It is, however, an abscess in the anterior wall of the meatus. It was opened with relief to the pain, and there was no disease of the deeper parts.

80. *Occlusion of Eustachian Tubes—Congestion of Middle Ear*.—John Goodfellow, æt. 37.—Lost his hearing quite suddenly in the right ear, a fortnight

ago, and in a few days the other became similarly affected. Hearing distance, contact.

The right membrana tympani is dull and vascular; especially along the course of the malleus, and more concave than natural. The left is of a dark leaden colour, and much fallen inwards; the meatus is dry and red at its inner part. The throat is swollen and thick; both Eustachian tubes occluded.

About ten days afterwards the hearing began to improve, and in the course of a month it had quite returned.

81. *Ossaceous Tumour in Meatus, Chronic Inflammation of Meatus*.—Mrs Sinelair, æt. 58.—For several years has suffered from a swollen and irritable state of the left ear, with great heat and itching in the meatus, and very distressing noises; especially she complains of a sort of reverberation in her head. The watch is heard on contact.

On looking into the meatus, after clearing it of a mass of thickened enticle, it seemed at first as if the upper part of the membrana tympani was removed. On more careful examination, however, this appearance was seen to be caused by a thin ridge of bone, which arose like a curtain from the floor of the meatus, about two lines in front of the membrana tympani, and concealing all except the upper fourth of the membrane. This shell of bone was very thin and remarkably sensitive. Behind it were several pieces of thickened dermis, which were removed by the forceps and syringe. The meatus and auricle were washed several times with a twenty-grain solution of nitrate of silver, and afterwards the weak citrine ointment was put in occasionally with a brush. At the end of a fortnight the heat and itchiness had disappeared. The tinnitus had also ceased, and she heard as well as ever. When seen some months afterwards, the shell of bone remained as before, and gave no inconvenience.

82. *Inflammation of Mucous Membrane of Tympanum*.—Catherine Campbell, æt. 8; June 11.—Has had attacks of earache in both ears occasionally during the last fortnight. Since last night the pain has been very severe.

The meatus is red and tender at its inner third. The membrana tympani is of a dusky red colour—especially along the course of the malleus. The right is concave, the bright spot large, and the whole membrane presents an almost black appearance, owing to great congestion of the membrana tympani and middle ear. Both Eustachian tubes are shut.

The application of a leech to the surface of each meatus, followed by blisters, removed the pain, and the hearing gradually improved, and by the end of five weeks the hearing was quite restored.

83. *Chronic Inflammation of Membrana Tympani*.—William Macphail, æt. 13; June 11.—Got a severe cold about five months ago, and has been deaf since. The hearing distance is one inch in the left, and two inches and a half in the right ear.

The meatus in both ears is somewhat thickened and red, especially towards the inner third, where there is great vascularity. The upper part of the left membrana tympani is very opaque and thickened,—the manubrium of the malleus stands out very prominently. The inferior portion of the membrane is drawn inwards, and numerous large vessels are seen ramifying on its surface. The right membrana tympani presents nearly similar appearances, but there is less lymph deposit in it than in the left. The tonsils are very large; the mucous membrane of the fauces is thick and red. The Eustachian tubes are permeable, but the air enters the middle ear with difficulty and only occasionally.

The tonsils were removed. Small doses of the bichloride of mercury were given along with the muriated tincture of iron, and free counter-irritation was applied behind the ears. In about three weeks symptoms of improvement showed themselves. By the middle of July the watch was heard at the distance of six inches from the right ear, and eight inches from the left. By the end of October the membrana tympani had nearly cleared, and the watch was heard at the distance of five or six feet on either side.

84. *Chronic Inflammation of Membrana Tympani*.—William MacDonald, æt. 13.—Has been deaf for about four years. The deafness was preceded, and has frequently been followed, by attacks of pain in the ears. The hearing distance is contact on the left, and half an inch on the right side.

The meatus is dry in both ears; the right membrana tympani is thickened; the thickening is irregular, giving the membrane a mottled appearance. Many enlarged blood-vessels are seen ramifying on its surface, especially along the course of the malleus. The left has much the same appearance, if anything it is more dense and white than the other.

By the beginning of October the hearing had improved so far that the watch was heard at the distance of eight inches from the left ear and sixteen from the right. In consequence, however, of having remained for upwards of an hour in the swimming-bath he got cold, and had another acute attack of pain in both ears; and at present his dulness of hearing is as great as when he first came under treatment.

85. *Deafness following an Injury of the Head—Great Tinnitus and Opacity of the Membrana Tympani*.—Mrs Stark, æt. 52.—Complains of deafness, with very distressing noises in the right ear; the hearing of which is gone. She states that last January she fell on the ice, and at the time there was great bleeding from the ear. She remained insensible for four hours, and for several weeks afterwards had great giddiness in the head.

The membrana tympani is uniformly white; but there is no appearance of any old cicatrix, or of the membrane having sustained any injury. On the floor of the meatus are numerous large superficial vessels, and there is still a small hard clot adhering to the dermis. The examination of this case was made rather hurriedly, and the patient was requested to return, but she failed to do so.

86. *Thickening of Tympanic Cavity and Membrana Tympani*.—Richard Sleigh, æt. 7.—Has been deaf for the last two years. The deafness was preceded by severe attacks of carache. He is a very delicate-looking, fair-haired, nervous boy from the country. During damp weather, or on the least exposure to cold, he becomes so deaf that he requires to be spoken to quite close to the head.

Both membranes are dull, of a dark red colour, and very concave. The Eustachian tubes are permeable; but there is great gurgling as the air enters the cavity of the tympanum. The tonsils are large, and the throat thick and swollen. This patient was not again seen, though his case was a very favourable one for treatment.

87. *Inflammation of Meatus and Membrana Tympani caused by the introduction of some irritating substance into the Ear*.—Jane Anderson, æt. 19.—A week ago when suffering from severe toothache, was recommended to put into the ear some drops of a so-called specific for toothache, manufactured by a druggist at Burntisland. This she accordingly did, and was almost immediately seized with intense pain in the left ear. This continued for three days, when the pain was relieved by a profuse discharge from the ear. The watch is only heard on placing it against the auricle.

The meatus is swollen and tender, containing a thin discharge, with masses of thickened cuticle; the external layer of the membrana tympani is seen to be much thickened, with large patches of lymph effused on its surface.

In the course of a fortnight the parts had resumed their natural appearance, and the hearing had returned. The substance dropped into the ear appears to have been a strong solution of camphor in alcohol. This is the third case in which I have seen acute inflammation of the ear set up by the same specific for toothache introduced into the ear.

88. *Great Opacity with Atheromatous Deposit in Membrana Tympani*.—Margaret Whitehead, æt. 35.—Has been deaf for the last ten years. The watch is unheard unless when pressed upon the auricles. On examination the right membrana tympani is seen to be very dense and white; and owing to the great thickening the handle of the malleus is scarcely distinguishable. In the

left, in addition to a similarly diseased state of parts, there is a large patch of atheromatous deposit.

89. *Chronic Inflammation of Tympanum*.—David Aigle, æt. 13.—Has been getting deaf for six or eight months. The watch is heard half an inch from the right ear, and on contact with the left. Both membranæ tympani are dull, thickened, and concave; the triangular bright spot is large and elongated; the tympanum is uninflatable.

On the 2d July hearing had begun to improve; the watch being heard at two inches from the left, and nearly four from the right. After that he ceased attendance.

90. *Chronic Inflammation of Meatus and Membrana Tympani*.—William Heriot, æt. 7.—About ten months ago had severe pain in the left ear, which was followed by discharge. This has continued since then. Hearing distance, four inches. *

The meatus is thickened, and contains a thin milky discharge and masses of thickened epidermis. Several small polypi, or rather granulations, are growing from the posterior wall of the tube near the membrana tympani. The membrana tympani is dull and thick.

The meatus was washed two or three times with a twenty-grain solution of nitrate of silver, and free external counter-irritation was kept up for a long time. When seen a few weeks ago the hearing had returned, and the membrana tympani had quite regained its translucency.

91. *Inflammation of Meatus after Bathing*.—John Smith, æt. 12; June 26.—A fortnight ago, after bathing, was seized with severe pain in both ears. This continued for several days, and was followed by deafness. Hearing distance, two inches.

Both canals are dry and tender; the membranæ tympani of a deep red colour. Eustachian tubes pervious; but there is great gurgling as the air enters the middle ear, as if there was mucous engorgement of the tympanum. The application of a leech to each meatus, fomentations, and two or three blisters, were followed by a return of the hearing in about a fortnight.

92. *Mucous Accumulation in Middle Ear*.—Simon Fraser, æt. 32; June 26.—For the last ten days has had dulness of hearing, with confusion in the head, and a feeling of pressure on the right ear. Hearing distance, ten inches.

The meatus is very large and dry; the membrana tympani of a dark leaden colour, and much more concave than natural; air enters the middle ear with a gurgling sound; the throat is swollen and red. The fauces were touched with a forty-grain solution of nitrate of silver, and slight counter-irritation prescribed, along with a tannin gargle for the throat; and in the course of ten days the symptoms had disappeared.

93. *Catarrhal Inflammation of Middle Ear*.—John Veitch, æt. 28; June 26.—About two years ago had slight discharge from the left ear, and after continuing a few weeks it ceased spontaneously. A fortnight ago, after bathing, was seized with acute pain in the ear, which in two days after was followed by profuse discharge and great deafness. Hearing distance, contact.

The meatus is swollen and full of discharge; the membrana tympani is of a bright red colour, and there is a minute perforation near its anterior margin, where there is a strong pulsation, and where mucus is seen, being pumped through from the middle ear. This patient was not seen again.

94. *Chronic Inflammation of Meatus*.—Peter Carmichael, æt. 35; June 26.—For four or five months has suffered from intense itching deep down in the ear. Latterly there has been a slight discharge.

On removing the mucus-purulent discharge with which the meatus and membrana tympani are coated, the latter is seen to be very vascular, almost granular in appearance; the inner third of the meatus is also red and somewhat thickened. Hearing distance, six inches.

The membrana tympani and deep part of the meatus were washed with a

solution of nitrate of silver, sixty grains to the ounce. This was repeated once or twice, by which time the discharge had ceased, and along with it the irritation and itching in the ear. External irritation was continued for some weeks, and the hearing became quite restored.

95. *Loss of Hearing after Scarlet Fever—Membrana Tympani destroyed.*—Jane Cunningham, æt. 21.—Lost her hearing fourteen years ago after scarlet fever. Since then has had a constant discharge from both ears. On examination both membrana tympani are quite removed,—apparently also the small bones of the ear. The hearing is almost quite gone.

96. *Suppuration of Ear from introduction of Oil of Turpentine into Meatus.*—David Craig, æt. 20.—About four years ago had a slight earache, for which he was recommended to put into the ear some oil of turpentine. This was followed by severe pain and profuse suppuration, and for some time by complete loss of hearing. At present the hearing distance is four inches. *

The membrana tympani is nearly removed, a small rim only being left. The mucous membrane of the middle ear is swollen and red. This was washed several times with a twenty-grain solution of the nitrate of silver; and, with the daily use of the syringe, in the course of three or four weeks the discharge had ceased. The artificial membrana tympani of Mr Toynbee, when introduced, answered remarkably well, increasing the hearing distance to upwards of three feet. The patient, however, would not take the trouble to use it; for, as he said, he heard quite well with the other ear and was satisfied with having got quit of the discharge.

97. *Inflammation of Tympanum.*—Jane Colvin, æt. 11; a fair-haired, delicate-looking girl.—Has had severe earache every night for the last three weeks. Hearing distance, contact. The membrana tympani on the affected side is dull, and has a swollen appearance. A few days after there was a slight discharge from the ear, which relieved the pain; there was not, however, any aperture in the membrana tympani. In about ten days the discharge ceased, and the membrana tympani was left much thickened, and two months afterwards the watch was only heard at the distance of two feet.

98. *Occlusion of Eustachian Tube.*—John Mackay, æt. 40.—Has been dull of hearing for several weeks. Within the last week has got very deaf in the left ear, with a feeling of fulness and pain on that side of the head. Hearing distance, one inch and a-half.

Both passages are full of soft cerumen, on removing which the hearing is restored in the right, but not in the left ear, the membrana tympani of which is seen to be of a dark leaden colour, very concave, and reflecting light from nearly its whole surface. The left Eustachian tube is impermeable.

A blister behind the ear relieved the pain in the head, and in about ten days air passed freely into the tympanum, and the hearing returned.

99. *Acute Inflammation of the Tympanic Cavity, extending to the Periosteum over the mastoid region—Bell's Paralysis, etc.*—Donald Munro, æt. 30.—The details of this case are not now given, as it is intended to publish it with some others of a similar nature afterwards.

100. *Catarrh of Middle Ear, with discharge through the Membrana Tympani, after Measles.*—William Young, æt. 13. Has had discharge from one ear for the last seven weeks. It came on after acute pain during his convalescence from measles. Hearing distance, half-an-inch.

The meatus is swollen, and contains large flakes of detached cuticle. The membrana tympani is very red, and has a small perforation near the centre of the anterior vibrating portion, through which a muco-purulent discharge comes from the middle ear.

By the daily use of the syringe, an occasional washing of the meatus and membrana tympani with a weak solution of nitrate of silver, and mild counter-irritation, the parts gradually resumed a healthy appearance; the opening in the membrana tympani closed, and in six weeks the hearing was restored.